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Farmers' Living Conditions Improve

RECORD production and good prices in recent years not only have resulted in higher incomes for farm operators, but also in improved living conditions for their families. This improvement in family living is shown in a study just put out by the Bureau of Agricultural Economics. It gives county-by-county comparisons for the whole country.

Families of United States farm operators, on the average, enjoyed a 25 percent better living in 1945 than in 1940, the study shows.

Nearly all farm operators lived better. Some farmers, such as those on the better farms of southern California, the Corn Belt and the northeastern seaboard, gained more than the average. Others gained less. But even in the poorer farming areas, some improvement was usual. Living conditions declined in only about 1 percent of the Nation's counties during the 5 years.

The improvement was measured by making indexes of levels of living for families of farm operators by counties. The indexes are based on (1) the percentage of farms in a county with electricity in the farm house; (2) the percentage of farm homes that had a telephone; (3) the percentage of farms that had automobiles; and (4) the average value of products sold or traded in the preceding year for each farm reporting (adjusted for changes in purchasing power). This information was obtained from the 1940 and 1945 Agricultural Censuses.

Of course, the four items do not include everything that makes up the level of living of a farm family. However, they measure fairly well the other things that make up a living standard. For instance, farm families who have electricity in their homes are more likely to have other kinds of conveniences. They also are apt to have fairly good houses. And an automobile does much for a farm family. With a car, the family can take part in community activities more easily, do its trading more conveniently, and go to church and the movies oftener.

The indexes compare the level of living in each county in both 1940 and 1945 with the average for all counties in 1945. This average is 100, the starting point for the indexes. For example, the average of the index numbers for the counties of the East North Central States was 109 in 1940—9 percent above the average level of living of all counties in the United States in 1945.

Farm operators in the heart of the Corn Belt, in the industrial States on

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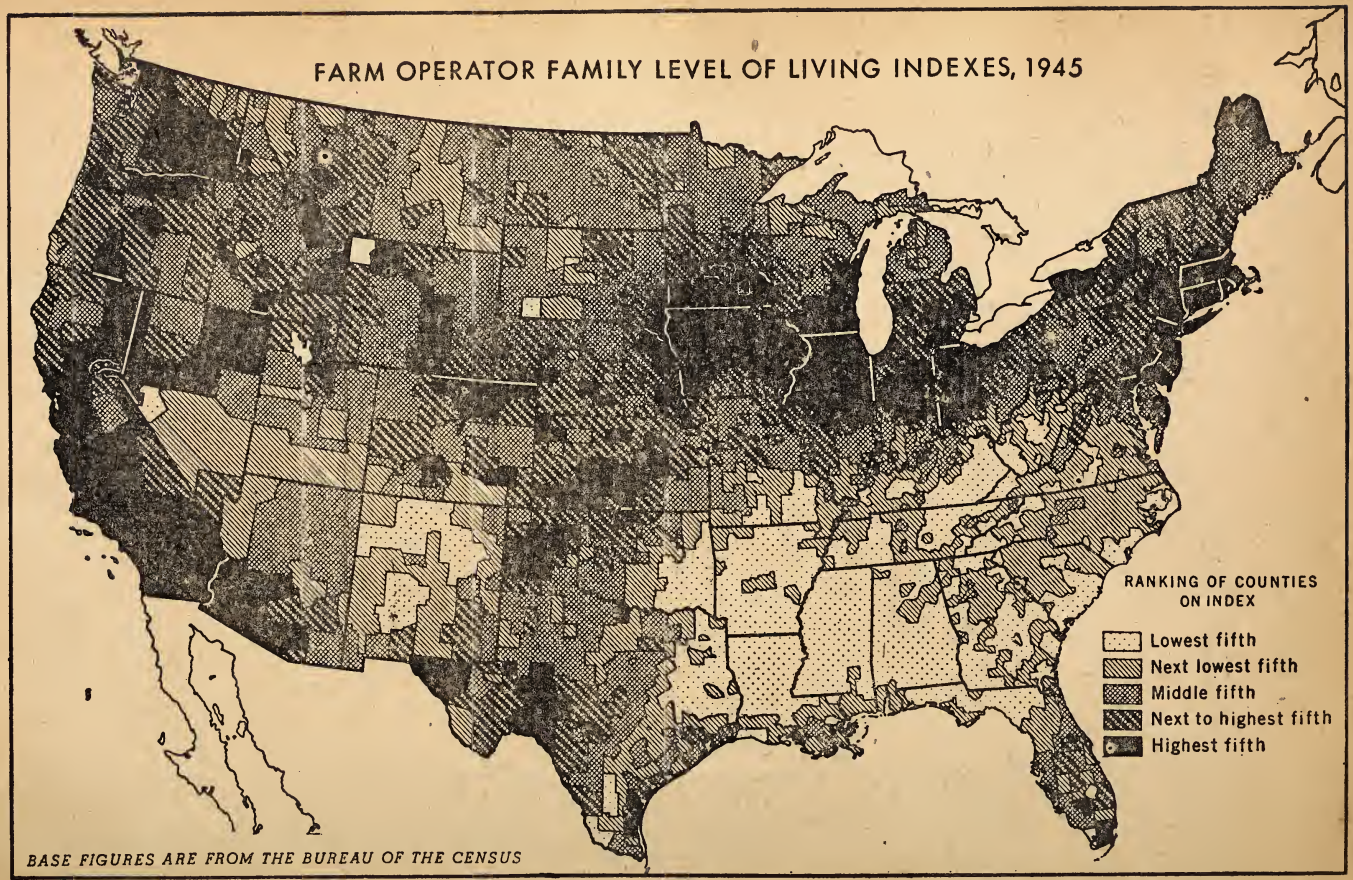

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the northeast seaboard, and in California had the highest levels of farm living in the United States. New Jersey counties averaged 176, well above those of any other State. The average for Connecticut was 170, for Iowa 162 and for California 161. Iowa had more counties among the upper fifth than any other State but large numbers in this group also were found in Illinois, Indiana, Ohio, Wisconsin, Minnesota, California, Washington and a few other States.

In general, counties in the second fifth are located near those in the top fifth while the same is true of counties in the lowest and next lowest fifth. Counties in the middle fifth are scattered about, although many are in the Plains States and the Southwest.

The level of living of farm operators in the southern States was the lowest in the country, in both 1940 and 1945. The figures for the South include sharecroppers as farm operators. Texas, with an index of 101, was the only southern State whose level of living in 1945 was above the average for the Nation. Nearly all counties in the lowest fifth are in the Southeast. Most of these are in the eastern Cotton Belt and the Appalachians, particularly eastern Kentucky.

At the same time, the South had a greater percentage gain in levels of living than any other region. The East South Central States showed a gain of 37 percent between 1940 and 1945, while the two other southern divisions made gains above 30 percent. However, the indexes for the southern regions did not increase as many points as those for other regions.

The county indexes measure only the levels of living of farm operator families. They do not necessarily reflect the living conditions of hired farm workers. Among the high ranking States, California, Connecticut, Massachusetts, Rhode Island, New Jersey and Delaware have many hired farm workers. Iowa, on the other hand, has relatively few hired laborers. In Iowa, therefore, the county indexes reflect the living conditions of a large proportion of the people on farms. In the southern States, since sharecroppers are included as farm operators, the indexes also measure the levels of living of a large part of the farm population.

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Making Farms Safe From Accidents

AS President Truman proclaims the week of July 20–26 as National Farm Safety Week for the fourth annual observance, there are already signs that this movement has stimulated not only increased interest but action to prevent loss of life, suffering and property damage. Such organizations as the National Safety Council, the Department of Agriculture, The National Education Association, insurance companies, the Red Cross, manufacturers of farm machinery and others have established definite programs of safety dealing with various phases of farm accident prevention.

So serious has been the problem that legislation in a number of States has been introduced to encourage the saving of life and property from the waste of accidental destruction by various causes. As an example, a school building code was adopted in South Carolina after a rural school burned in the spring of 1923 with the loss of 77 lives, mostly farm people. In that case, the design of the building, prevented its easy evacuation.

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In seven States, mostly in the Middle West, one or more full-time farm safety specialists have been employed to maintain a year-around program of accident prevention. In addition, in nearly all States there are one or more Extension Service workers who work on farm safety matters. The Rural Electrification Administration, which serves farms throughout the country, provides inspection service to make sure that electrical installations in farm buildings are safe and comply with regulatory codes.

Through the efforts of the National Safety Council, which has for many years taken the lead in concern about farm accidents, farm safety committees have been organized and are now functioning in a number of States including Arkansas, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New York, Ohio, Pennsylvania, South Carolina, Utah, and Wisconsin. These State councils are for the most part further organized at the county level, the goal being to establish a safety committee in each county. The State and local councils have encouraged farmers to discover and remove hazards that could lead to accidents and fires.

Fire prevention education or fire drills are required in the schools of more than half of the States. Responsibility for such courses in safety is usually given to the schools and State fire marshals. In the more general field of safety the National Education Association, through its Department of Rural Education, is at present planning a series of bulletins to help develop rural safety education programs. These bulletins should be ready later this year. For a long time there has been a need for courses in safety that are tied in with instruction in other fields, as in teaching the safe use of farm machinery while the student is being taught how to operate and care for the machine.

In improving the safety of construction, definite progress has been made in a number of States. However, the compulsory phases of such legislation do not generally include farm buildings. So far, these laws apply only to places where public gatherings are held and less frequently to other kinds of buildings. At least six States have State building codes and 14 States have State electrical codes.

Dr. Henry Giese of Iowa State College, who has made an exhaustive study of rural fire prevention in that State, calls attention to the tremendous importance of inspection by the farmers' mutual fire associations. Better housekeeping, he declares, prevents farm fires, a scourge which annually takes many lives and causes much property damage and loss. The California legislature in 1945 created a State Fire Advisory Board, with the State Fire Marshal as chairman, to help establish minimum standards for the protection of life and property against fire and panic. The Board also was set up to coordinate the activities of the State Fire Marshal's office with those of local governmental agencies. In Pennsylvania a bill was introduced in the 1947 legislature to provide an appropriation of $25 000 to the Department of Public Instruction for farm and home safety education during the 2-year period, beginning June 1, 1947. Likewise in West Virginia a movement has been initiated to establish a State program of farm and home safety.

JOHN D. RUSH
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Survey of Farm Accidents

ONE farm person was injured during the last quarter of 1946, for every 28 farms included in a sample survey made by the Bureau of Agricultural Economics.

The survey was made in January 1947, covering about 15,000 farms in 814 counties. The sample chosen was designed to obtain figures representative of the entire Nation. Although subject to later revison, the figures thus obtained are the most complete yet available on farm accidents.

The accidents reported included all injuries to persons living or working on farms covered in the survey, counting injuries both on and off the farm. Medical, dental and hospital expenses

growing from these accidents amounted to a little more than $40 per person injured. The time lost from usual activities (work for adults and school or play for children) was reported to be about three weeks per farm person injured.

If the farms in the survey were typical of the entire country, the results would indicate that from October through December there were roughly 210 000 accidents that injured people living or working on farms; that the injuries cost a total of $8,750,000 for medical, dental and hospital expenses; and that the time lost from usual activities totaled 4½ million days.

How Parity for Farmers Is Measured

PARITY means different things to different people, but farmers usually have a few general ideas in mind when they talk about it. Those ideas add up to more than an economic program, a formula, an index or two, or a few pages of statistics on prices, costs or incomes. Probably the central idea that most farmers have is economic justice. To a farmer, parity is likely to mean that he should get as good a living from his work as a comparable worker in town does.

During the early 1930's, the purchasing power of farmers was low compared with town folks. Most people agreed that this was bad, not only for agriculture, but for the country as a whole. As a result, Congress set up several farm programs to help remedy the situation. Among these were the production control programs, marketing agreements, export subsidies, loan programs such as those of the CCC and other agencies, and later the price support program.

To achieve the parity goal for agriculture, it is first necessary to have some way to measure parity itself. We have to find out what are the circumstances under which the economic standing of farmers can be said to be at parity with that of city people. And we must be able to measure the extent of any disparity. The tools for this job of measuring are known as the parity "formulas." Congress has provided for two of them: (1) The price parity formula, and (2) the income parity formula.

Both formulas measure the economic condition of farmers by comparing it with his condition during a base period—August 1909 to July 1914 in each case. During this period, prices of most farm products were more stable than in other years for which records had been kept. It was believed that the prices farmers got compared well with those they paid. In addition, farm living was believed to be more nearly equal to city living than in later years. In each formula, it is assumed that farmers were at parity during 1909–14 and that for farmers to get parity, farmers' prices and incomes should change in the same way as prices paid by farmers and the incomes of town people.

The price parity formula gauges the purchasing power of farm commodities. It compares the prices of things farmers buy and sell with prices in the base period. The formula was first included in the Agricultural Adjustment Act of 1933 and has been amended several times, new bases being adopted for many products. One of the most important changes came in 1935, when interest and taxes were added to the index of prices paid by farmers. "Comparable" prices are now used for soybeans and a few other products.

Statistics basic to the price parity formula include (1) the average local market price for the various farm products for the base period, (2) the index of prices paid by farmers including interest and taxes, (3) the index of prices received by farmers, (4) parity prices, (5) the parity ratio.

The *index of prices paid by farmers* (including interest and taxes) shows the level of prices of things farmers buy. It is often called the "parity index." It is based on the prices of 86 items used in family living and 94 items used in farming. Also, each of these items is weighted statistically, according to its importance. The index of prices paid in the base period is shown as 100. Prices paid by farmers at other

times are shown as percentages of this figure—more than 100 if prices are generally higher—less than 100 if generally lower.

The *index of prices received by farmers* shows the general level of these prices at a particular time. Like the prices paid index, it is 100 for the base period. Prices in other periods are shown as more than 100, or less, depending on how prices have acted. Again, each item is weighted statistically, to reflect its importance to farmers. The price of wheat, for example, is more important generally, than the price of rye, and is given a greater weight in the index.

The *parity price* for a commodity is one that will give the commodity the same purchasing power per bushel or pound that it had in 1909–14. The parity price for a product is found by multiplying its 1909–14 average local market price by the index of prices paid. For instance, the average price farmers got for a bushel of wheat in 1909–14 was 88.4 cents. On January 15, 1947, the index of prices paid was 215, which means that these prices were more than double 1909–14. Multiply 88.4 by 215. The result is $1.90, the parity price for a bushel of wheat on January 15. On the same day, the average price for wheat was $1.91 a bushel. Comparisons of a parity price with a current average price usually are shown as a percentage. The percentage for wheat on January 15 was 101 ($1.91 divided by $1.90).

How the prices farmers get compare with those they pay is shown by the *parity ratio.* This is found by dividing the index of prices received by the index of prices paid. In the 1935–39 period, for example, the *prices received index* was 107 and the *prices paid index* 128. The former divided by the latter gave a parity ratio of 84. This means that in general prices received by farmers were lower compared with prices paid than in 1909–14. On January 15, 1947, the opposite was true, the parity ratio being 121.

Income Parity

The income parity formula gets at the parity picture in a different way. It shows how the changes in net income of farmers since 1909–14 compare with changes for town people.

The per person incomes of farmers and nonfarmers is compared by use of two index numbers: (1) the index of per capita net income of persons living on farms from farming, and (2) the index of per capita income of persons not living on farms.

The *index of per capita income of persons living on farms from farming* shows how the net income of farmers at a particular time compares with 1909–14. It is found by first determining the net income of all farmers from farming. This includes (1) the realized net income of farm operators, (2) the value of changes in crop and livestock inventories, and (3) farm wages received by laborers living on farms. The net income of all people living on farms is divided by the number of farmers to get the average net income per farmer. This figure is then reflected in an index number, using 100 for the base period.

The *index of per capita income of persons not living on farms* shows how the income of nonfarmers compares with the base period. The total income of nonfarmers is divided by the number of nonfarmers to get their income per person. This figure also is made into an index, with the base period as 100.

The first index divided by the second gives the *income parity ratio.* A ratio above 100 means that farmers' net income per farmer has gone up more since the base period than the per capita income of nonfarmers. A ratio below 100 means the opposite.

When this ratio stands at 100, farm income is at parity, as now defined by law. However, this does not mean that, when the ratio is 100, farm income is equal to nonfarm income. On the contrary, when it is at parity as defined by law, farm people actually get only 27½ percent as much net income per person as do nonfarm people. This figure counts the off-farm income that farmers get as though it were received by nonfarmers. But even if this part of the total national income is credited to farmers, farm people in 1944 earned only a little over half as much per person as nonfarm people. And in 1944, farm income was 45 percent above parity, as defined by law.

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Sixty Million Dollars Worth of Onions

ONION growers in the United States in 1945 produced a crop worth a record of 60 million dollars. However, with still larger production in 1946, last year's crop was worth only $43,466,000 dollars. The 1945 production was less than in 1942, 1944 and 1946, but, as the price in 1945 was the second highest on record, value reached its high point. In contrast, value of the 1921 crop was less than 16 million dollars.

Onion culture dates back to remote antiquity. In fact, the onion was one of the things the Israelites longed for in the wilderness and complained about to Moses. Exactly when it was introduced into North America is not known, but it is now cultivated in most of the United States as a garden crop. Commercial production on an extensive scale is carried on in widespread special regions. Harvesting of the crop, moving from one area or another, is carried on from late March until the end of October.

The annual acreage devoted to onions during the period 1918–21 averaged 62,400 acres. Acreage was increased in each succeeding 5-year period, except 1937–41, and by 1942–46 had reached an average of 145,600 acres. During the entire period, the acreage has ranged from a low of 54,000 acres in 1919 to a high of 178,600 in 1944. By 5-year periods, acreage in south Texas for early-spring harvest has averaged from two-tenths to nearly four-tenths of the annual total; acreage for late-spring harvest, one-sixteenth to one-seventh; for early-summer harvest, one-fourteenth to one-tenth; and late summer four-tenths to nearly one-third. The general tendency has been for the spring crops to comprise a larger percentage of the total and the summer crops a smaller proportion.

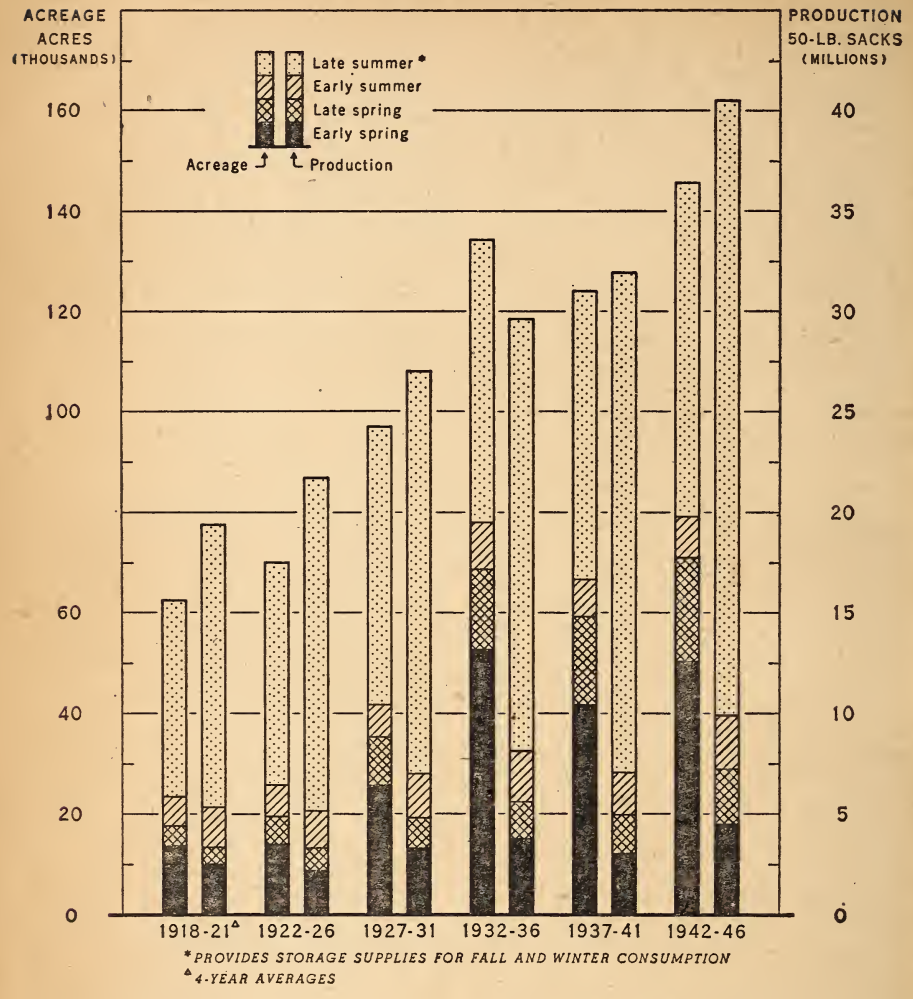
The average yield per acre declined from 1918–21 to 1932–36, but rose thereafter to about the 1927–31 level. The downward trend stemmed largely from heavy increases of acreage in the low-yield spring areas. In the important late summer areas, the trend was generally upward, with the 1942–46 average of 457 50-pound sacks per acre being nearly 100 sacks above the 1918–21 average. The upward trend resulted from use of better varieties, the shift of acreage into the higher yielding commercial areas especially in the West, and more recently to better thrips control through DDT.

Annual production has increased from a 1918–21 average of 19.4 million sacks to the 1942–46 average of 40.4 million. For the early spring crop, the 1942–46 average was 80 percent greater than in 1918–21; the late spring crop, 230 percent greater; early summer, 35 percent greater; and late summer, 115 percent greater. Over the years, early spring production has comprised a little more than one-tenth of the annual total; late spring, about one-twentieth; early summer, between one-twentieth and one-tenth; and late summer approximately three-fourths.

The early onions do not store well, as a rule, and are marketed as harvested. Much of the late summer crop, on the other hand, is stored for periods up to about 6 months. The early spring crop starts moving to market in late March or early April, depending on the season, and continues until near the end of May. South Texas is the only source of supply for early spring onions. Late spring shipments usually get under way from California about April 1 and from other areas a month later. Active harvesting is over by July 1, but the season may be prolonged for another month or two. Central and north Texas is the principal area of production, followed by California. Arizona, Louisiana and Georgia also produce lesser quantities. Early summer harvest usually starts in California about May 1 and in other areas a month to a month and a half later, with the bulk of the crop harvested during July. California and New Jersey furnish the bulk of supplies although several other States also produce in commercial quantities.

The bulk of the late summer crop is harvested in August and September. Most of the late summer onions are grown in New York, Michigan, Minnesota, Indiana, Colorado, California, Idaho and Oregon. Although harvesting is about over by the end of October, marketings continue into the next spring, sometimes as late as May. Usually, some 30 percent of the late

ONIONS: ACREAGE AND PRODUCTION, 1918-46
(5-YEAR AVERAGES)



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Both the acreage and production of onions have more than doubled in the United States since World War I. Earliest marketings come from the Lower Rio Grande Valley of Texas which produces the early spring crop of Bermudas, usually comprising about 10 percent of the national supply. These start to market about April 1. Late spring and early summer onions are grown commercially in 12 States of which the largest producers are California, Texas, and New Jersey. These groups comprise about 15 percent of the national crop. The late summer crop provides 75 percent of the national supply and is grown in the Northeastern, North Central and Western States. This crop is the source of storage supplies for fall and winter consumption, supplying the markets until the early spring onions from Texas become available.

summer crop is held in storage to be sold after January 1. New York, Michigan, Colorado, Idaho and Oregon ordinarily store the largest quantities that are intended for marketing after the first of the year.

Prices received by growers for onions took a decided down turn from 1918–21 to 1932–36 but moved upward thereafter. The 1942–46 annual average of $1.28 per 50-pound sack was 14 cents above the 1918–21 average and more than double the 1932–36 average. Demand for onions was strong throughout the war period. However, the large 1946 crop brought growers only 88 cents per sack on the average. Seasonally, onion prices usually reach their peak in April and decline each month thereafter until the low point is reached in October. There is a tendency for prices to rise and fall in alternate years, with production being increased in years following high prices and reduced in years following low prices.

Recent developments important to the future of the onion industry include the discovery of DDT as an effective control for thrips and the development of hybrid strains of onions. Also, considerable work has been done in breeding for resistance to disease. Scientists have obtained fine results in crossing suitable inbred lines of onions. The results indicate that hybrid seed may have great importance in commercial production. The plant breeding work already done makes possible the combining of lines that are resistant to the attack of thrips and various diseases, and provides a method for attaining great uniformity of shape, color, time-of-maturity, and palatability for onions.

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Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		June 15, 1946	May 15, 1947	June 15, 1947	Parity price June 15, 1947
	August 1909–July 1914	January 1935–December 1939				
Wheat (bushel) ---dollars	0.884	0.837	1.74	2.39	2.18	2.03
Rye (bushel) ---do	.720	.554	1.45	2.45	2.40	1.66
Rice (bushel) ---do	.813	.742	[1] 1.81	2.33	2.22	1.87
Corn (bushel) ---do	.642	.691	1.42	1.59	1.85	1.48
Oats (bushel) ---do	.399	.340	.809	.888	.915	.918
Barley (bushel) ---do	.619	.533	1.25	1.42	1.50	1.42
Sorghum, grain (100-pound) ---do	1.21	1.17	2.57	2.72	2.80	2.78
Hay (tons) ---do	11.87	8.87	14.70	16.80	16.00	27.30
Cotton (pound) ---cents	12.4	10.34	25.68	33.50	34.07	28.52
Cottonseed (ton) ---dollars	22.55	27.52	51.50	83.70	79.60	51.90
Soybeans (bushel) ---do	[2] .96	.954	2.17	3.01	3.07	[3] 2.21
Peanuts (pound) ---cents	4.8	3.55	8.83	10.0	9.99	11.0
Flaxseed (bushel) ---dollars	1.69	1.69	[1] 3.11	6.01	5.92	3.89
Potatoes (bushel) ---do	[4] .697	.717	[1] 1.44	1.53	1.56	1.70
Sweetpotatoes (bushel) ---do	.878	.807	2.51	2.33	2.49	2.02
Apples (bushel) ---do	.96	.90	3.69	3.18	3.23	2.21
Oranges on tree (box) ---do	[5] 2.29	1.11	3.22	1.57	1.08	3.48
Hogs (hundredweight) ---do	7.27	8.38	14.30	22.90	23.30	16.70
Beef cattle (hundredweight) ---do	5.42	6.56	[1] 13.80	18.60	19.50	12.50
Veal calves (hundredweight) ---do	6.75	7.80	14.80	20.10	20.80	15.50
Lambs (hundredweight) ---do	5.88	7.79	14.30	19.80	21.10	13.50
Butterfat (pound) [6] ---cents	26.3	29.1	[1] 52.2	63.1	63.0	[7] 55.4
Milk, wholesale (100 pound) [6] ---dollars	1.60	1.81	[1] 3.44	3.72	3.62	[7] 3.28
Chickens (pound) ---cents	11.4	14.9	26.6	27.9	27.5	26.2
Eggs (dozen) ---do	21.5	21.7	33.5	40.7	41.5	[7] 44.5
Wool (pound) ---do	18.3	23.8	[1] 42.5	39.0	38.3	42.1

[1] Revised.
[2] Comparable base price, August 1909–July 1914.
[3] Comparable price computed under sec. 3 (b) Price Control Act.
[4] 1919–28 average of $1.12 per bu. used in computing parity.
[5] 1919–28 average for computing parity price.
[6] Does not include dairy production payments made directly to farmers by county PMA offices October 1943 to June 1946.
[7] Adjusted for seasonality.

Tobacco Key Money Crop in Kentucky

WHAT $2 wheat is to the wheat States, and $20 hogs are to the Corn Belt, tobacco is to Kentucky, its outstanding and highly profitable cash product. The 1946 crop added nearly 189 million dollars into Kentucky farmers' cash receipts, or better than $450 per acre from the 415,200 acres.

Of course, from this amount farmers have to pay heavily for expenses. Tobacco is a very expensive and laborious crop to produce, not adapted to mechanized handling. Three or four acres is about all that one man can handle, even with extra hired help at planting, harvesting, and "stripping" the cured leaves. In stripping, the leaves must be carefully graded by hand into numerous grades according to color, length, and other factors. Yet, those same hard requirements make it the ideal cash crop in rolling and hilly country, for the small farmer can produce it with family labor and get just as good quality and cash returns per acre as can the big operator.

From earliest pioneer days in the late seventeen-hundreds, tobacco has been an important source of Kentucky farmers' income, originally going down the Ohio and Mississippi rivers in flatboats to New Orleans, along with cargoes of furs and other pioneer products. But the boom of World War II and since has done to tobacco the same as it has to many farm products—raised the prices to the point of inducing increased production. As a result, of this and generally high agricultural prices, Kentucky has marched in the very forefront of the States in inflation of land prices.

Although the tobacco acreage is under allotment control by vote of the farmers themselves, the yield per allotted acre has shot up fast under heavily increased use of fertilizers, manure, cover crops, better cultural practices, more plants per acre, etc. Also, we have had several favorable seasons when even the weather seemed made to order for heavy yields. Thus, thoughtful farmers are beginning to look apprehensively at the stocks that manufacturers, dealers, and exporters are reporting on hand, as compared to the established outlets, both domestic and foreign.

But in a State where the State motto is "United we stand, divided we fall" the farmers do not propose to allow unprofitably low prices to catch them unawares. They have voted overwhelmingly for control programs in acreage allotments. They have a thorough system of long-established cooperatives designed and equipped to take over at 90 percent of parity, handle, and store for orderly later marketing any surplus; and they have laws enabling them to finance and carry out such orderly marketing. Thus they have a program for controlling the acreage, putting a substantial "floor" under the price, and for orderly handling and marketing of any surplus that might develop.

The chant of the tobacco auctioneer is something to hear. And there's gold in that gibberish. To the initiated, who are on the floor of the auction warehouse where they can catch the opening bid, whether by word, wink, nod, finger signal, or other means, it is quite intelligible. Just as much so, in fact, as the signals that are given on the floor of the grain and other exchanges, or in a livestock sale barn auction.

Preparatory to the sales, farmers have stripped the leaves from the stalks, graded them, tied them into neat "hands" of 15 to 25 leaves with another leaf. For the auction, these are placed on flat baskets in long rows down the floor of a warehouse, sometimes a block long. And when the auction is done, it is often amazing to calculate the volume of cash that has passed to the farmers in a few minutes as the auctioneer and buyers walk slowly down the rows, the auctioneer chanting gibberish, and exchanging bid signals.

Further complicating not only the sales systems, but especially the problem of estimating the crop, is the fact that there are six distinct types of tobacco grown in Kentucky. And although the areas of most of them are roughly discernible, they overlap, intermingle, and shift widely in response to price and other factors affecting each type. Still more difficult is the fact that some kinds may be grown to ma-

turity for one type, and then the curing process changed from air-curing to fire-curing, or vice versa, and it becomes a different type for market.

The principal type is burley, a light colored type chiefly for cigarette and smoking tobacco but with some plug and twist or chewing tobacco grades. This is grown practically throughout the State, though with varying acreage. It is air-cured in well-ventilated barns.

Two dark air-cured types are one-sucker and Green River, the latter so-called from the area where it is grown. The "one-sucker" gets its name from the fact that only one crop of "suckers" have to be broken from the axils of the leaves, whereas other types keep on putting out new crops of "suckers." There are three dark fire-cured types, cured in tight barns, and over open wood fires, like smoking hams, to impart a desired flavor and aroma.

With tobacco thus being not only the best known cash crop, requiring only small tilled acreage, and adapted to the many small farms as well as to the largest, it seems obvious that Kentucky farmers will do their best to hold their tobacco economy on an even keel.

H. F. Bryant
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Weather Signs and Cycles

FROM ancient times, farmers have searched the skies for weather to come: weather that can spell the difference between crop failure or bountiful harvest. And, as a result of their own observations, many farmers even today are able to make some pretty good weather forecasts for their farms.

The weather lore that farmers have accumulated through the years is partly scientific, partly not. It may be summed up under two heads. One kind includes rules or indications that supposedly govern weather changes and various farm activities. These rules are based on "signs," among which the phases of the moon are perhaps the most popular. The second kind of lore supposes the existence of sequences or cycles in the weather; such as the idea that one extreme tends to be followed by the other; or that droughts or very cold winters occur at more or less regular intervals.

From its establishment in 1890, the Weather Bureau has given great attention to the weather problems of the American farmer. The large volume of farmers' requests for weather data shows that farm people are eager to get and use reliable weather information. These requests, however, also show that many farmers have considerable faith in some of the weather signs or sequences. Undoubtedly, a proper interpretation of wind shifts, clouds, and other atmospheric indications enables the experienced farmer to make a reasonably good short-range forecast for his own locality. But credulous acceptance of alleged astronomical signs, would hinder rather than help them to understand the weather.

Take, for example, "moon farming," as it has been called. This is the belief that farm life should be regulated with special attention to the changing phases of the moon. "Plant potatoes in the dark of the moon," "Shear sheep when the moon is waxing." "Take medicine when the moon is waning." "Plant corn in the light of the moon." These and similar "rules" are related to the notions that rain will not break a dry spell till the moon changes, that a moon with the horns pointing down means showers, and many more.

Scientifically, the only lunar influences on the earth's atmosphere worth considering are its gravitational pull and lighting-heating effect. Since the moon causes ocean tides, it might be imagined that it also produces atmospheric tides, which would greatly affect the weather. However, the best estimate is that the size of the atmospheric tides produced by the moon is insignificant as a weather factor. Calculations show, moreover, that the total temperature variation at the surface of the earth due to the heating effect of moonlight is negligible. The moon, then, cannot appreciably change the temperature or humidity of the air or soil; its light and heat are not strong enough to influence plant or animal growth; rain and storms do not occur in harmony with its phases; science knows

of no way in which crops, or livestock, or weather can be significantly affected by it.

Perhaps the most popular belief relating to sequences or cycles of weather is the belief that such things as rainfall may be forecast on the basis of the weather experienced during the past several years. As the departures above normal (over a long period) are offset by those below normal, it is reasoned by some people that a succession of wet years should, in most cases, be followed by a dry year. The way to test this idea is to examine the records at selected stations in the United States over a number of years.

This test was made by selecting, at random, 12 first-order Weather Bureau stations, with 30 years or more record, scattered throughout the United States. The stations drawn were: Abilene, Tex.; Birmingham, Ala.; Cleveland, Ohio; Dodge City, Kans.; Eureka, Calif.; Grand Junction, Colo.; Knoxville, Tenn.; Milwaukee, Wis.; Richmond, Va.; Shreveport, La.; Tacoma, Wash.; and Wichita, Kans.

Every occurrence of two successive years with above normal rainfall at these stations was first examined to determine whether or not a dry year actually tended to follow two consecutive wet years. There were 186 cases of above normal rainfall for two successive years. The next year, it was again above normal in 104 of these cases, with drier-than-usual weather being experienced in only 82 cases. Thus, when the weather was wet for two years running, it continued wet for the third year in a majority of the cases.

The records further showed that when above normal rainfall occurred during three consecutive years, the fourth year was wetter than usual in 62 of 102 cases. Likewise, when 4- and 5-year periods of above normal rainfall occurred, the following year was also above normal in about 65 percent of the instances. When single years of above normal rainfall occurred, however, they were followed by a drier-than-usual year in 184 of 370 cases—almost exactly half. In short, this study revealed that when the weather was wetter than usual for two to five consecutive years at the stations selected, it continued wet during the following year in about three out of five instances on the average. However, this does not prove that a wet year will necessarily follow a succession of years with above average rainfall but only that a wet year is slightly more likely than a dry year after two to five successive years with above average precipitation. It does, of course, rule out the old idea that a dry year usually follows a wet one.

As to the belief that weather conditions tend to come in cycles, the story is about the same. The utility of cycles in forecasting weather has never been established scientifically. A number of investigators have announced periodic or cyclic weather variations, but none of their results appear to be conclusive. In any case, the cycles claimed are usually of little practical value in forecasting yearly or monthly precipitation or temperature departures from normal, when compared with the total variability of the weather.

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Straw Going Into Wider Uses

STRAW, our most important crop-residue, is now going into wider uses for industrial purposes. Recent years have seen a notable expansion in use of processed straw, mostly for making straw board, cigarette papers and for producing high quality writing paper.

In other countries, the straw of small grain crops long has been put to many helpful uses. It is used in making brick, thatching roofs, as a substitute for twine, for making mats, bags and wearing apparel, for fuel, and for many other household uses. Everywhere, of course, it is widely used for feed and bedding for livestock.

Our production of small-grain straw in 1945 is estimated at more than 134 million tons. This was about 25 percent above the 1935–44 average, reflecting the large production of small-grain crops. Of the total straw, 57 percent was estimated to be recoverable for farm use or for sale; 43 percent was left in fields, as stubble, and chaff, and short straw from combines.

Of the about 76 million tons of recoverable straw, about 9 million tons were used on farms or sold as baled straw; 25 million tons used or sold as loose straw, and about 42 million tons were left in field or otherwise not used.

The proportion of straw used or sold varies widely in different parts of the country. In areas where livestock numbers are large and where they are housed during the winter, the recoverable straw is mostly collected. On the other hand, in many areas of the Great Plains, the Mountain States, the Pacific Coast States, and in Oklahoma and Texas, where straw production is large in relation to farm needs and industrial uses, only a small part of it is stored or sold. Because straw is so bulky, the expense of processing, transporting and handling it, usually prevent its shipment from surplus to deficit areas.

Wheat accounted for about 58 percent of the Nation's total straw production in 1945. Combines are used to a greater extent for harvesting wheat than for other small grains and so a relatively small proportion of the total straw was recoverable. Of the about 40 million tons of recoverable wheat straw produced in 1945, about 9 percent was used or sold as baled straw, 19 percent was used or sold as loose straw and 72 percent was left in fields or otherwise not used. On most farms straw left in field after the harvest is later returned to the soil, where it supplies needed organic matter and plant food.

In the Northeast States, 85 percent of the recoverable wheat straw was collected. Utilization of wheat straw was also high in the Corn Belt, the Lake States, and the Appalachian States. A higher percentage of the wheat straw was baled in the Northeast and the Corn Belt States than in other regions. Crop correspondents reports show that in most Western States the bulk of the recoverable wheat straw was left in fields and little straw was baled. Trade sources show that some 700,000 tons of baled wheat straw are used annually by strawboard manufacturers and fairly large quantities of straw are used off the farm, mostly as a packing material and for curing concrete.

Oat straw is second to wheat straw in importance, and amounted to about 35 percent of the total recoverable small-grain straw in 1945. Oat straw is softer and more leafy than others and most farmers prefer it for feed and bedding livestock. For the entire country 18 percent of the recoverable oat straw was used or sold as baled straw and more than 55 percent was used on farms or sold as loose straw. A higher proportion of the recoverable oat straw was collected than for any other kind of straw.

Although barley straw is third in importance as regards tonnage, it amounted to only about 7 percent of the total small grain straw. Of the slightly more than 5 million tons of recoverable barley straw produced in 1945, only about 4 percent was used or sold as baled straw, but slightly more than one-third was used or sold as loose straw.

Production of flaxseed straw in 1945 was large. Of the about 1.7 million tons of recoverable straw, about 20 percent was baled and about the same amount used on farms or sold as loose straw. Flaxseed straw came into extensive use during the war period for producing cigarette paper and some other high quality paper. Some flax straw is used for making rugs. Trade sources show that about 340,000 tons of flaxseed straw were sold for these purposes in 1945. Baling of flaxseed straw was mostly confined to Minnesota, South Dakota, Iowa, and California, which supplied practically all of the flaxseed straw used in industry.

Recoverable straw from rye, rice, and buckwheat, together amounted to less than 3.0 million tons in 1945. This was only about 4 percent of the total recoverable small-grain straw. Rye straw has fairly important industrial uses such as stuffing for horse collars and packing of nursery stock, and more than 10 percent of it was baled. Although only a small percentage of the rice and buckwheat straw was baled the proportions of these straws used in a loose form as feed and bedding was higher than for most small-grain straws.

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Year and month	Industrial production (1935–39 = 100)[1]	Income of industrial workers (1935–39 = 100)[2]	1910–14=100				Index of prices received by farmers (August 1909–July 1914=100)			
			Wholesale prices of all commodities[3]	Prices paid by farmers		Farm wage rates[4]	Livestock and products			
				Commodities	Commodities, interest, and taxes		Dairy products	Poultry and eggs	Meat animals	All livestock
1910–14 average	58	50	100	100	100	100	100	101	101	101
1915–19 average	72	90	158	151	150	148	148	154	163	158
1920–24 average	75	122	160	161	173	178	159	163	123	142
1925–29 average	98	129	143	155	168	179	160	155	148	154
1930–34 average	74	78	107	122	135	115	105	94	85	93
1935–39 average	100	100	118	125	128	118	119	109	119	117
1940–44 average	192	234	139	150	148	212	162	146	171	164
1945 average	203	290	154	180	174	350	197	196	210	203
1946 average	170	270	177	203	194	378	242	198	256	240
1946										
June	171	269	165	196	188		207	178	230	213
July	172	273	182	209	199	378	245	196	268	247
August	177	290	188	214	204		257	199	294	263
September	180	292	181	210	200		271	221	249	250
October	181	293	196	218	207	378	300	257	318	299
November	182	298	204	224	212		307	230	313	294
December	[5] 182	305	206	225	213		312	226	311	294
1947										
January	188	[5] 308	207	227	215	399	292	201	306	281
February	[5] 190	[5] 309	211	234	221		270	192	319	278
March	189	313	218	240	227		269	199	345	292
April	186	310	216	243	230	397	257	204	331	282
May	186		214	242	229		241	203	327	275
June				243	230		233	205	338	278

Year and month	Index of prices received by farmers (August 1909–July 1914=100)								Parity ratio[6]
	Crops							All crops and livestock	
	Food grains	Feed grains and hay	Tobacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops	
1910–14 average	100	101	102	96	98	99		99	100	100
1915–19 average	193	164	187	168	187	125		168	162	106
1920–24 average	147	126	192	189	149	148	[7] 143	160	151	86
1925–29 average	140	119	172	145	129	141	140	143	149	89
1930–34 average	70	76	119	74	72	94	106	86	90	66
1935–39 average	94	95	175	83	106	83	102	97	107	84
1940–44 average	123	119	245	131	159	133	172	143	154	103
1945 average	172	161	366	171	215	220	224	201	202	116
1946 average	201	195	382	228	244	226	204	226	233	120
1946										
June	200	195	370	210	219	261	185	223	218	116
July	215	244	369	249	242	249	163	240	244	123
August	203	225	388	271	242	203	162	233	249	122
September	207	221	396	285	236	210	154	236	243	122
October	218	222	410	304	255	208	151	244	273	132
November	220	187	399	236	342	186	207	230	263	124
December	224	186	406	242	334	211	166	232	264	124
1947										
January	223	184	399	240	336	196	238	236	260	121
February	235	185	390	246	334	203	275	245	262	119
March	283	212	390	257	360	215	299	266	280	123
April	277	223	387	260	358	223	295	269	276	120
May	276	218	390	270	326	222	286	268	272	119
June	253	240	390	275	318	228	215	262	271	118

[1] Federal Reserve Board; represents output of mining and manufacturing; monthly data adjusted for seasonal variation.
[2] Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rolls in mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised April 1947. [3] Bureau of Labor Statistics.
[4] Monthly data adjusted for seasonal variation. [5] Revised.
[6] Ratio of prices received to prices paid for commodities, interest, and taxes. [7] 1924 only.

Meat Animals

PRICES for meat animals are expected to stay high at least through the summer. Demand for meat at home and abroad is unusually strong.

Meat production this summer probably will be larger than last summer but most, if not all, of this increase will be beef and veal. Meat output this fall and winter may be about the same as a year earlier. About 53 million pigs were saved in the 1947 spring season, only slightly more than in the spring of 1946, indicating that hog slaughter this winter will be about the same as a year earlier. Cattle slaughter probably will continue large, but may be smaller than the record of last fall and winter.

As marketings of grass cattle increase this summer, prices of lower-grade slaughter cattle and of stockers and feeders are likely to decline at least seasonally. Prices of well-finished cattle probably will continue around present high levels. Hog prices probably will continue high through early fall, but at least a seasonal reduction in prices is in prospect for late fall, when 1947 spring pigs start to market in volume. Lamb prices are likely to decline through early fall with increased marketings. Because of the small lamb crop this year the decline in lamb prices probably will be only moderate.

Meat production this year probably will total around 23 billion pounds (dressed-meat basis), about the same as last year. Exports and shipments will fall far below those in the last few years, but are likely to be materially larger than the 1937–41 average of around 300 million pounds (dressed-meat basis). Current exports and shipments are about twice as large as prewar. Civilian meat supplies per person for the year 1947 probably will be around 150 to 155 pounds, well above most of the war years.

Farm Income

FARMERS in the first half of 1947 took in about 11.6 billion dollars from the sale of their products, one-third more than last year. Including Government payments, the total cash receipts were nearly 12 billion dollars, or about 30 percent above a year ago. Receipts from livestock and products were about 7.8 billion dollars, up 48 percent. Higher prices accounted for most of the gain in income from meat animals, but marketings also were larger. Cash receipts from dairy products showed an increase of about 40 percent over the first half of last year, but only 19 percent when dairy production payments are added to last year's receipts. Cash from poultry and eggs was above last year by a fairly small percentage. Sales of eggs, chickens and turkeys down but broilers up slightly. Prices of all poultry products except turkeys were higher than last year. Cash receipts from crops in the first half of 1947 probably were close to 3.8 billion dollars, 14 percent above the same period in 1946. Most of the gain occurred in receipts from grains, tobacco and cotton.

Wax From Sugarcane

A STARTING point for recovering the hard wax that forms a thin coating on sugarcane has been found by the U. S. Department of Agriculture. Scientists at the Houma, La., laboratory of the Bureau of Agricultural and Industrial Chemistry have worked out a way to recover the crude wax and to purify it when necessary for industrial uses. The process is now being developed commercially on a small scale.

Sugarcane wax is much like carnauba wax, the basic ingredient of high-grade wax polishes, which for years has been an important import item. In 1940, imports of less than 17 million pounds were valued at nearly 8 million dollars. Carnauba wax is obtained from the leaves of a Brazilian palm by drying the leaves and then beating them together.

That this wax was on the sugarcane has been known for many years. But a ton of cane bears only two or three pounds of wax, making direct recovery of the wax too expensive. The new process attacks the job at the point where the wax is concentrated in the waste filter-press cake that remains after clarification of the cane juice.

Dairy Products

WHOLESALE prices of dairy products in June were lower than usual in relation to prices of other foods. If food prices as a whole go down, dairymen probably will be affected less seriously than other groups of farmers.

Of the major dairy products, fluid milk has the least favorable prospects, because fluid milk prices are now higher than usual, compared with wholesale dairy products. If food prices in general go down, fluid milk prices probably would decline more than those for dairy products as a whole. However, prices for fluid milk usually change less rapidly than those for other dairy products, which would tend to delay the decline.

Butter and cheese prices in June were in line with the price level of wholesale dairy products. Both rose more sharply when price controls ended in October than other dairy products, but have fallen since then.

Milk production for the rest of this year will be about as large as in 1946. However, consumption of fluid milk and cream is far below last year. Much more of these will be used for manufactured dairy products than in 1946. Most of the increase will go into butter production, which probably will decline less than seasonally. Cheese production is likely to decline more than seasonally. Evaporated milk output will remain at about present levels. The butter-cheese price ratio recently has changed significantly, and is now at about the long-time average. This differs from the situation during the first quarter of 1947, when cheese prices were unusually favorable in relation to butter.

Production of skim milk products continues high. Because of price supports for nonfat dry milk solids and prospects that creamery butter output will decline less than seasonally, production of skim milk products is likely to continue at or near record levels.

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